UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/741,616	12/19/2000	Lizy Kurian John	119927-1040	5809

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EXAMINER
PAN, DANIEL H

ART UNIT	PAPER NUMBER
2183	

DATE MAILED: 11/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/741,616	JOHN ET AL.
	Examiner Pan	Art Unit 21P	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2000*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 September 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific
reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *3* .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

1.   Claims 1-37 are presented for examination.

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   Claims 1,2,8-10,12-21,23-27,31,35-37 are rejected under 35 U.S.C. 102(a)(b)

as being anticipated by   Nakagawa et al. (5,651,123)

4.   As to claim 1, the claimed language :'resource" is interpreted as any processing

source in a data processing system, such as instructions stored in specific memory

addresses based on applicant's own disclosure (see page 3, lines 11-20). Applicant is

welcome to give feedback in the next response.   Nakagawa disclosed a system

including at least :

a) a sequence generator that generate one or more resource identifiers [ID] using at

least portion of the pseudo sequence (e.g. see col.8, lines 38-67, col.9, lines 1-11, see

also fig.8 for the corresponding index O7-O0);

b)resource identifier selector [selector] coupled to the sequence generator (e.g. see

figs.3,5,15 see also col.7, lines 26-67, col.8, lines 1-5) for selecting one or more

resource id for instruction allocation.

5.   Nakagawa also included at least :

a) memory storage device (e.g. see fig.4 [Memory]);

b)a bus (fig.4 [36]);

c) a processor [30] coupled to the bus comprising a resource allocator (see fig.4).

6.   As to claim 2, Nakagawa also determined how many id's needed (e.g. see the

number sequence of 126 in col.8, lines 1-12).

7.   As to claims 8-10, Nakagawa disclosed logic circuit (fig.5 [selection]) and

storage array (see fig.5 [register]).

8.   As to claim 12, Nakagawa was also directed to pseudorandom sequence (e.g.

see col.3, lines 35-36).

9.   As to claim 13, Nakagawa also generated a pseudorandom number based on a

first pseudo number (e.g. see the sequential generation of he random numbers in

fig.8).

10.   As to claims 14, 17, 23,35-37, Nakagawa also stored the random number as

elements in a storage array (e.g. see each value of the random number in respective

register in fig.5, see also the selector for the logic circuit and the register array for the

storage array).

11.   As to claims 15, 18,24,   Nakagawa also included least significant bit (e.g. see fig.8 O0 bit in the table).

12.   As to claims 16,25, Nakagawa also included a shifter (e.g. see the feedback shift register in col.4, lines 13-24) and the selection circuit for indexing the element of the array (e.g. see the selection of the output address in col.7, lines 25-67, col.8, lines 1-5).

13.   As to claim 19, Nakagawa also determined the highest identifier (e.g. see the 1-126 range in col.8, lines 1-12).

14.   As to claim 21, Nakagawa also determined how many identifiers required (e.g. see, col.2, lines 29-41, col.8, lines 1-8).

15.   As to claim 26, Nakagawa also included determining a number based the most recent associated identifier (e.g. see the fixed sequence of the random numbers in col.1-6).

16.   As to claim 27, Nakagawa's identifier was also associated with instruction (e.g. see col.9, lines 12-22, see the random number of each instruction in figs.8-12).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17.   Claims 3 ,4 are   rejected under 35 U.S.C. 103(a) as being unpatentable over

Nakagawa et al. (5,651,123) in view of Gupta et al. (5,490,280).

18.   As to claims 3,4,   Gupta   did not disclose the reorder buffer the buffer entries

and as claimed. However, Gupta disclosed a reorder buffer and buffer entries (e.g. see

fig.,1B, fig.2). It would have been obvious to one of ordinary skill in the art to use Gupta

in Nakagawa for including the reorder buffer and the buffer entries as claimed because

the use of Gupta could provide the control capability of Nakagawa to easily allocate the

resource information (e.g. id, data etc.) in a predetermined , thereby providing

operand data requested at specific order of the instruction execution sequence from a

single set of buffer entries, and therefore, reducing the latency cycle caused by

separate hardware circuit, and it could be readily done by predefining the reorder buffer

of Gupta into Nakagawa with modified configuration parameters (e.g. the buffer R/W

port), such that the reorder buffer of Gupta could be recognized by Nakagawa, and one

of ordinary skill in the art should be able to recognize that the locking mechanism of

Nakagawa's arbitration among the plurality of peripheral devices would have needed

a storage buffer, such as reorder buffer , for providing specific operation order of the

resources to enhance the arbitration, and in doing so, provided a motivation.

19.   Claims 5,6,7,22,28, 29, 32-34 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Nakagawa et al. (5,651,123) in view of Williams et al. (5,530,837).

20.   As to claims 5,6,7,22, 28,29, 32-34, limitations of the parent clams have been

discussed in the previous paragraph, therefore, they are not repeated herein.

Nakagawa did not specifically show his selector comprised the comparator for

comparing the ID to an allocation bound as claimed. However, Williams discloses

system for including a comparison of allocation bound (range) (see the bank id and the

range comparison (e.g. see col.5, lines 56-65, col.6, lines 6-22). It would have been

obvious to one of ordinary skill in the art to use Williams in Nakagawa for including the

comparator for comparing the resource id with the allocation bound as claimed

because the use of Williams could provide Nakagawa the processing ability to allocate

the id into a predetermined range of the resource identification , and therefore,

eliminating possible contentions of the resource assignment by providing the

comparison of he given range, and because it would have been obvious to one or

ordinary skill in the art to recognize that allocation of the resource id within a defined

group of allocation range or bound seemed to be logical and desirable in order to

minimize the conflicts among the resource id's, otherwise, the system could not worked

in efficient manner, and for the above reasons provided motivation .

21.

22.   Claims 11, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable

Nakagawa et al. (5,651,123) in view of Kondo et al. (6,389,562)

23.   As to claims 11, 30,   Nakagawa did not specifically teach the stall signal for the

decoder as claimed. However, Kondo disclosed a system including a stall signal for a

decoder (e.g. see col.14, lines 5-10). It would have been obvious to one of ordinary skill

in the art to use Kondo in Nakagawa for including the decoder stall signal as claimed

because the use of Kondo could provide the processing capability of Nakagawa to

adapt to particular processing condition of the circuit , such as the delay time due to

error, therefore, increasing the accuracy of the corresponding processing sequence,

such as the decode stage, at a given clock cycle, and it could be readily achieved by

configuring the stall signal of Condo into Nakagawa so the decode stall signal could be

recognized by Nakagawa.

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

a) Hawthorne (5,323,338) is cited for the background teaching in

pseudorandom number generator (e.g. see 3, lines 33-54).

b)Shefi (6,266,413) is cited for the background teaching of the generation of the

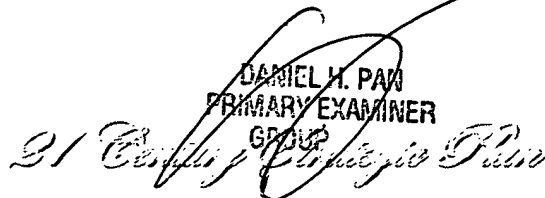random number based another random number (e.g see fig.1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Pan whose telephone number is 703 305 9696. The examiner can normally be reached on M-F from 8:00 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chan, can be reached on 703 305 9712. The fax phone numbers for the organization where this application or proceeding is assigned is are:

a) before final 703 746 7239;
b) after final 703 746 7238;
c) Customer Service 703 746 7240.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305 3900. USPTO Web site can be reached at http://www.uspto.gov for general inquiry.

DANIEL H. PAN
PRIMARY EXAMINER
GROUP